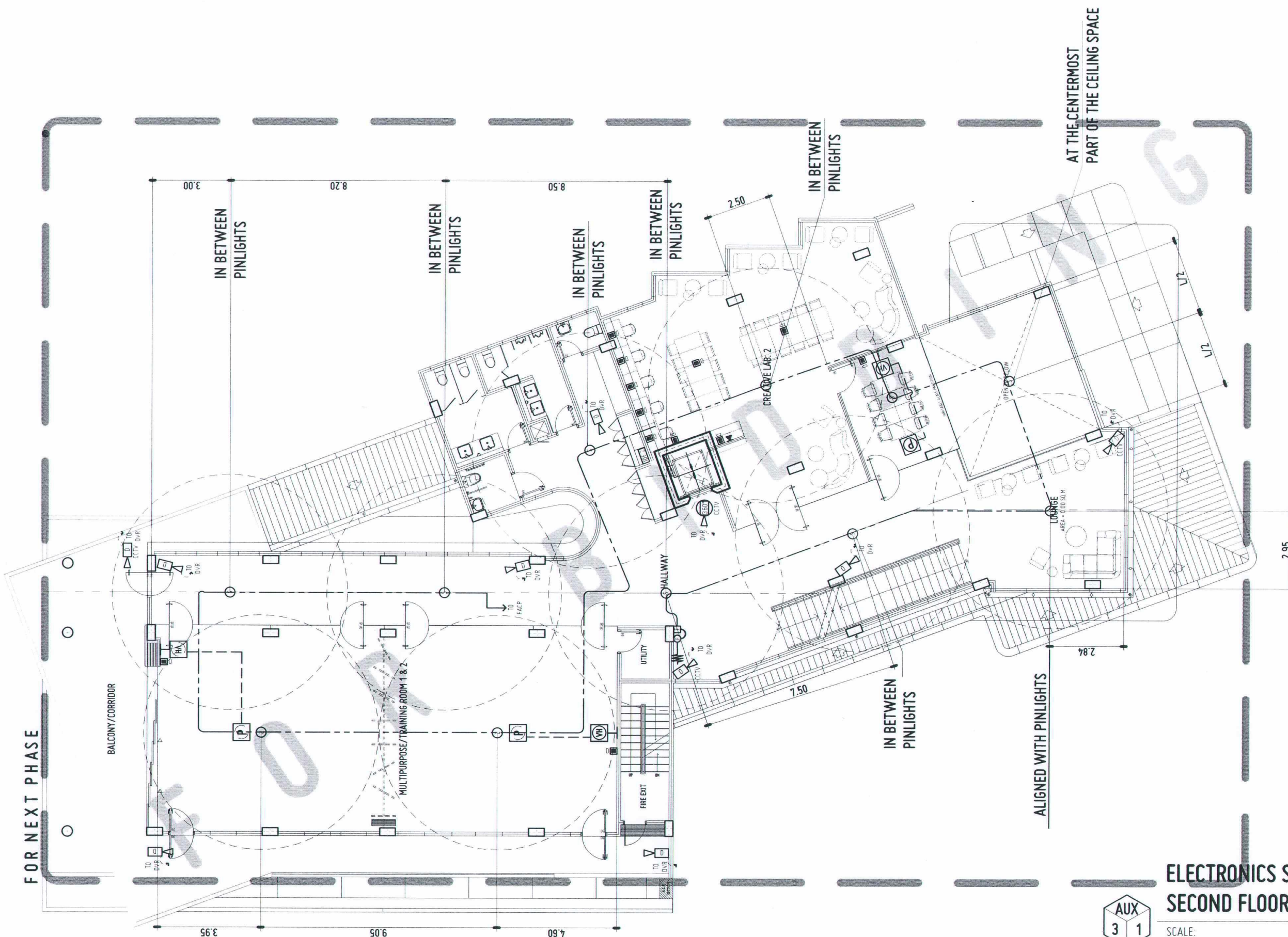




ELECTRONICS SYSTEM LAYOUT
SECOND FLOOR

AUX
3 1

SCALE: 1:150 MTS



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CAGAYAN DE ORO CAMPUS
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PROFESSIONAL ELECTRONICS ENGINEER		PROJECT
PRC NO.	PTR NO.	CONSTRUCTION OF INNOVATION AND COLLABORATION HUB PHASE II, ALUBIJID (MAIN) CAMPUS
DATE	PLACE	
TIN NO.		LOCATION USTP AGILA S&T PARK, ALUBIJID, MISAMIS ORIENTAL
		OWNER UNIVERSITY OF SCIENCE & TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
ENGR. GRACE C. BABA
DIRECTOR, INFRASTRUCTURE PLANNING
FACILITY DEVELOPMENT OFFICE

RECOMMENDING APPROVAL:
DR. LORY LIZA D. BULAY-OG
DIRECTOR, USTP ALUBIJID

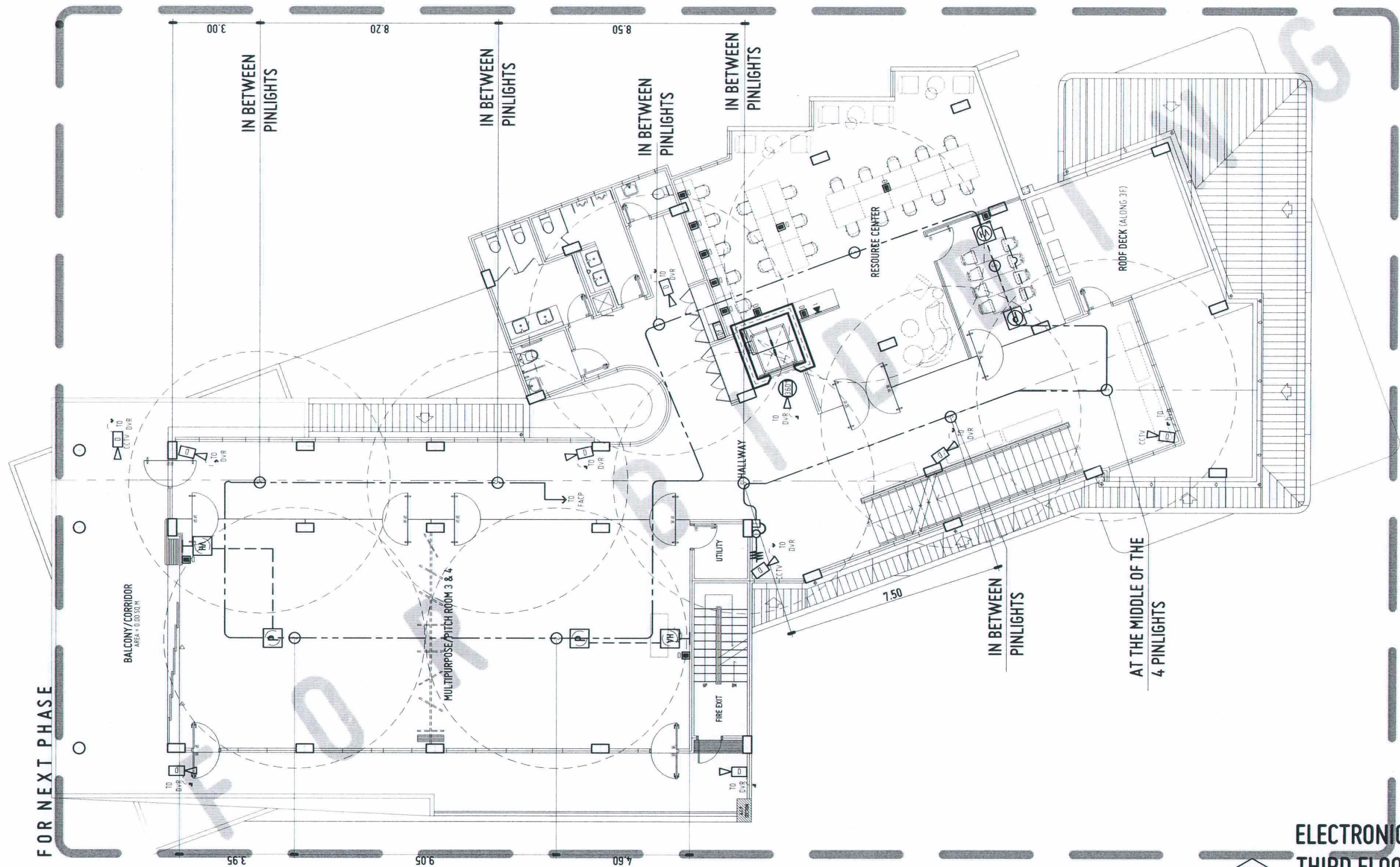
RECOMMENDING APPROVAL:
ATTY. JONATHAN S. OCHE
VP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:
DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
ELECTRONICS SYSTEM
LAYOUT:
SECOND FLOOR

DRAWN BY:
MAXFER
DATE DRAWN:
FNT:

AUX3



ELECTRONICS SYSTEM LAYOUT THIRD FLOOR

AUX
4 1

SCALE: 1:150 MTS



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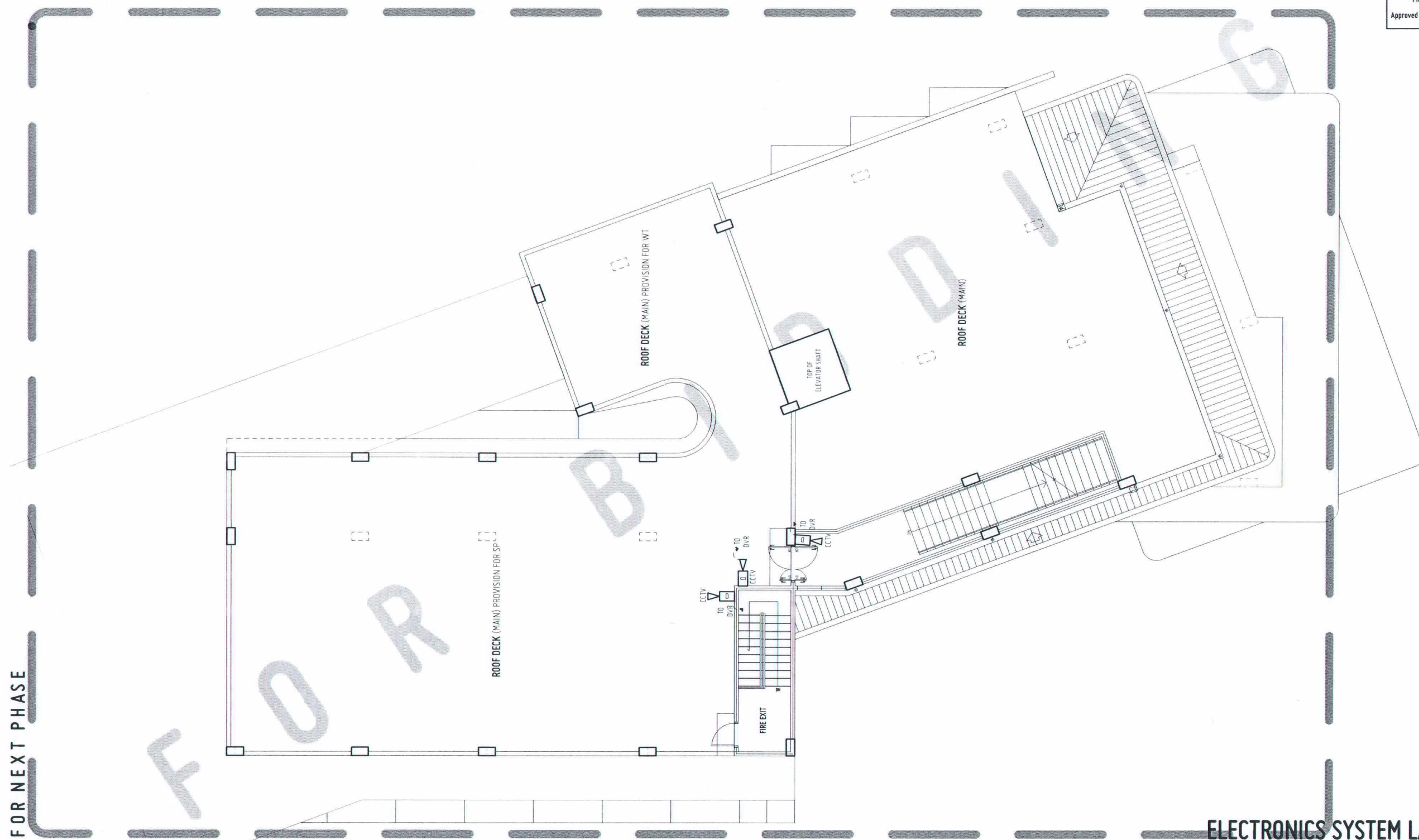
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SHEET CONTENTS:
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LAYOUT:
THIRD FLOOR

DRAWN BY:
MAXFER
DATE DRAWN:
FNT:

AUX4

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ELECTRONICS SYSTEM LAYOUT
ROOF DECK



SCALE: 1:150 MTS



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DATE	PLACE
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PROJECT

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OWNER	UNIVERSITY OF SCIENCE & TECHNOLOGY OF SOUTHERN PHILIPPINES

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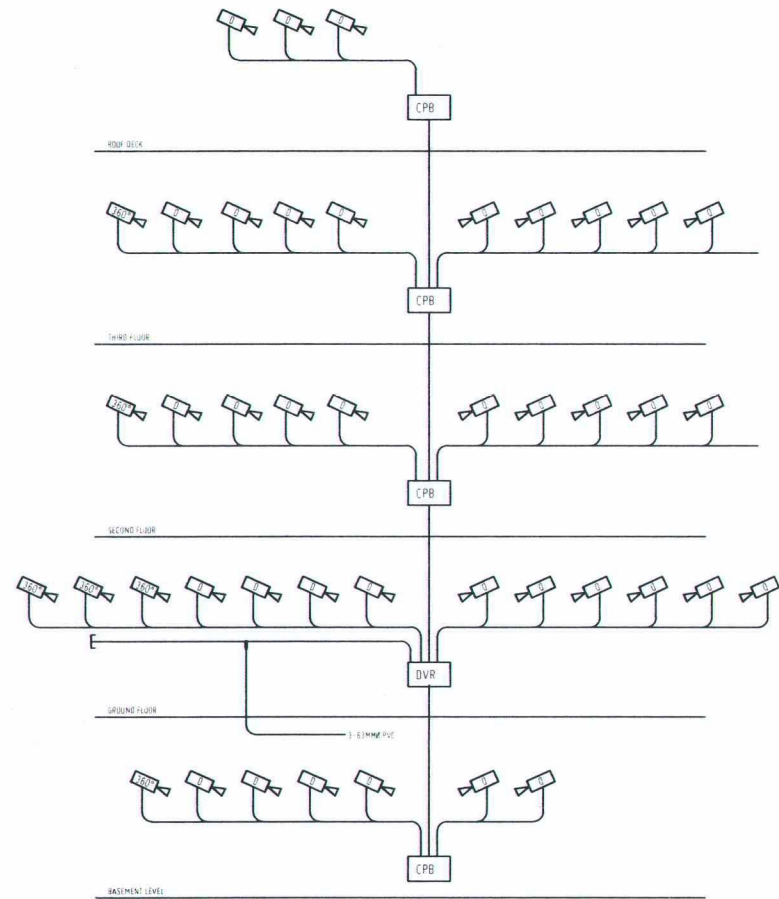
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ELECTRONICS SYSTEM LAYOUT: ROOF DECK

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DATE DRAWN:
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CCTV SYSTEM RISER DIAGRAM

AUX
6 1

NOT DRAWN TO SCALE

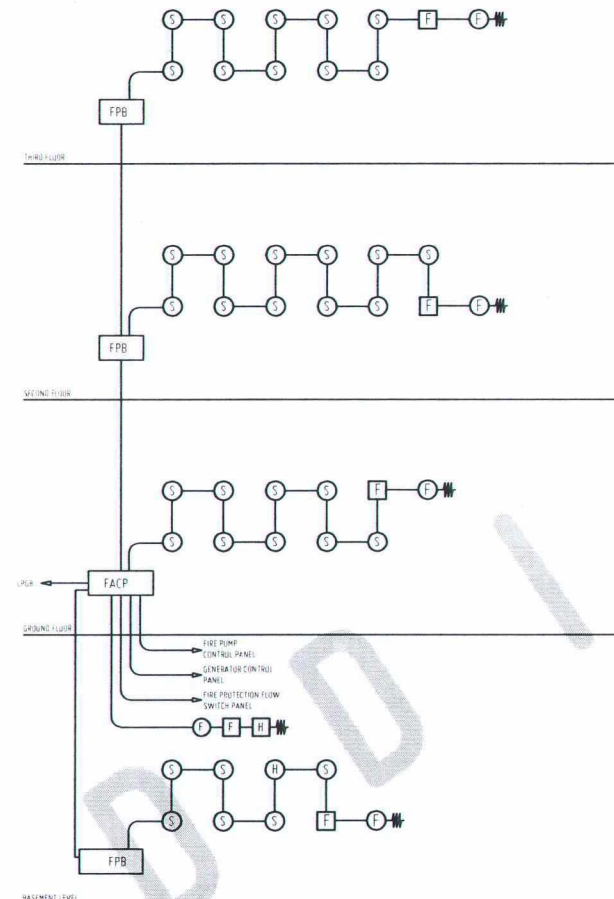
NOTES:

1. SYMBOL

- CLOSED CIRCUIT TELEVISION, DOME TYPE
PROVIDE SIGNAL CABLE & POWER CABLE FOR EACH CAMERA. WIRING IS SUBJECT TO MANUFACTURER'S STANDARD.
- CLOSED CIRCUIT TELEVISION, REVOLVING 360°
- CCTV WIRING PULLBOX WITH POWER SUPPLY
- DIGITAL VIDEO RECORDER

2. MINIMUM CONDUIT SHALL BE 20MM (3/4") Ø. USE IMC FOR ALL EXPOSED CONDUIT OR INSIDE DRYWALL AND PVC FOR ALL CONCRETE EMBEDDED CONDUIT.
3. VERIFY EXACT NUMBER OF CCTV CAMERA WITH LAYOUT.
4. VERIFY AND/OR COORDINATE WITH OWNER/USER THE EXACT LOCATION OF DVR PRIOR TO LAYOUT OF CONDUIT.
5. BOND ALL CPB, CABLE TRAY USING 5.5MM² GROUND WIRE AND BOND TO IBTB.
6. CCTV SYSTEM AND WIRING SCHEDULE.

C	CONDUIT SIZE	
	MMØ (INCHØ)	ØPVC
1	20	25 (3/4)
2	20	25 (3/4)
4	25	32 (1)
8	32	40 (1-1/4)
10	40	50 (1-1/2)
15	50	63 (2)



FIRE ALARM SYSTEM RISER DIAGRAM

AUX
6 2

NOT DRAWN TO SCALE

NOTES:

1. FIRE ALARM SYSTEM SHALL BE CONVENTIONAL TYPE.
2. MINIMUM CONDUIT SIZE SHALL BE 20MM (3/4") Ø. USE IMC FOR ALL EXPOSED CONDUIT OR INSIDE DRYWALL AND PVC IF CONCRETE EMBEDDED CONDUIT SHALL BE IMC. PROVIDE 50MM (2") Ø SPARE IMC RISER CONDUIT.
4. FDAS WIRING AND CONDUIT SCHEDULE.

CONDUIT SIZE		NUMBER OF TR WIRES		CONDUIT SIZE		NUMBER OF TR WIRES	
MMØ (INCHØ)		(C1) CABLE TYPE		MMØ (INCHØ)		(C1) CABLE TYPE	
METAL	ØPVC	#18	#16	METAL	ØPVC	#18	#16
20	25 (3/4)	25	18	60	75 (2-1/2)	234	172
25	32 (1)	41	30	80	90 (3)	363	266
32	40 (1-1/4)	72	53	90	100 (3-1/2)	486	357
40	50 (1-1/2)	99	72	100	110 (4)	627	460
50	63 (2)	164	120				

5. SYMBOLS

- A = #18/2 AWG (CIRCUIT INTEGRITY (CI) CABLE TYPE, UL LISTED BRAND)
- FACP = FIRE ALARM CONTROL PANEL, UL LISTED BRAND
- S = SMOKE DETECTOR - CEILING MOUNTED
- SD = SMOKE DETECTOR - WALL MOUNTED
- H = HEAT DETECTOR, CEILING MOUNTED
- F = FIRE ALARM STROBE AND HORN, UL LISTED BRAND
- FPB = FIRE ALARM SYSTEM WIRING PULL BOX

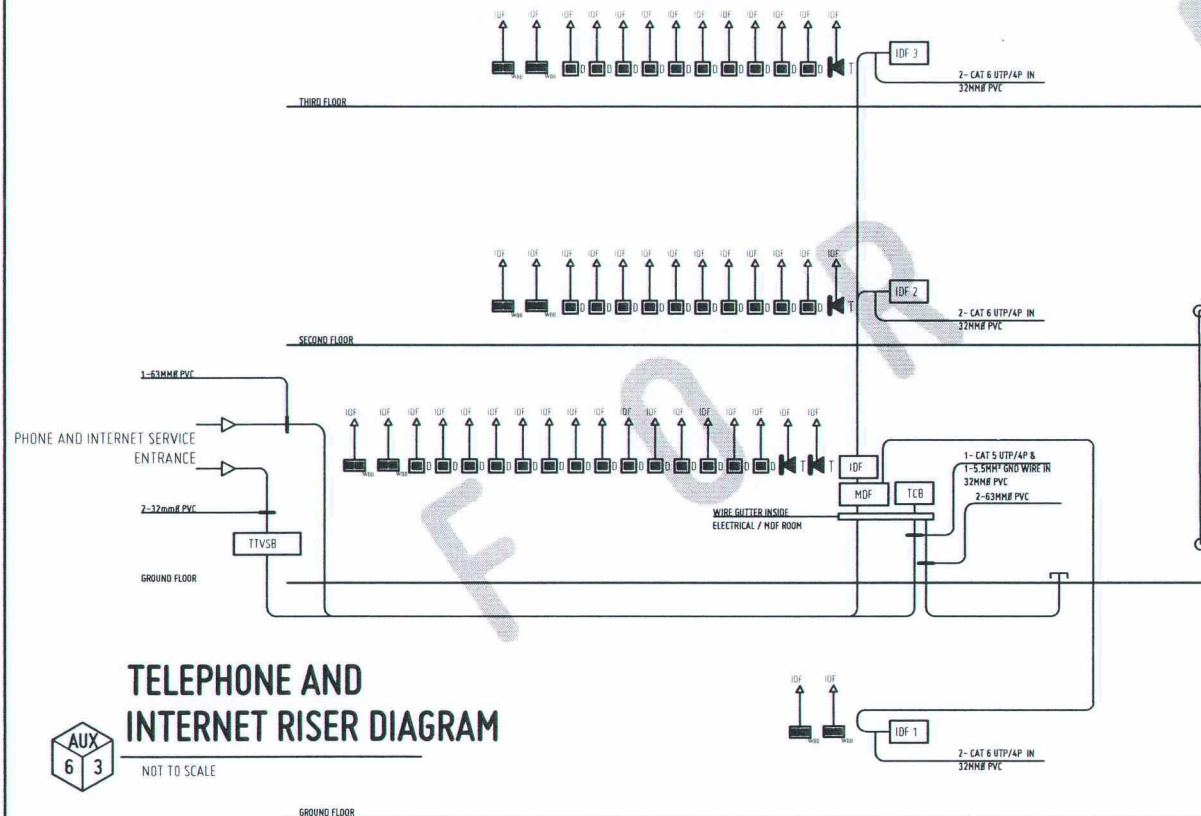
6. PROVIDE SUPERVISORY WIRES TO THE FOLLOWING:

- A. ELEVATOR/S
- B. FIRE PROTECTION FLOW SWITCH CONTROL PANEL OR INDIVIDUAL FLOW SWITCH (VERIFY LOCATION)
- C. STAIR PRESSURIZATION BLOWER/S OR FAN/S (VERIFY EXACT LOCATION)
- D. SMOKE VENTILATION SYSTEM AND/OR SMOKE CONTROL SYSTEM

7. PROVIDE SUPERVISORY WIRES TO GENERATOR CONTROL PANEL TO MONITOR THE FOLLOWING CONDITIONS:

- A. GENERATOR RUNNING
- B. GENERATOR FAULT
- C. GENERATOR SWITCH IN NON-AUTOMATIC POSITION/MODE

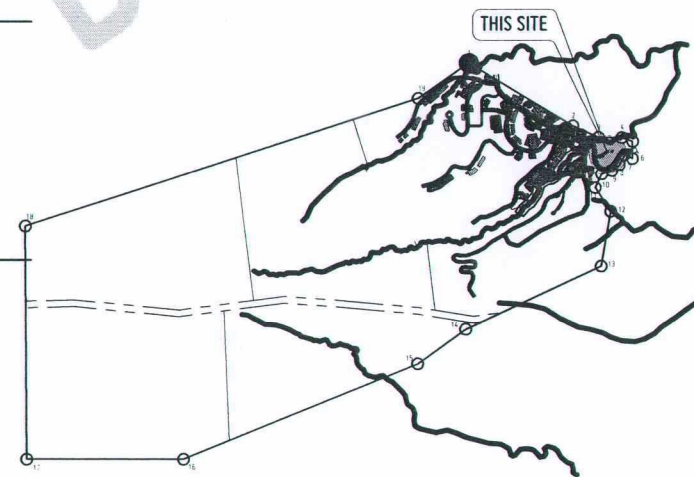
8. FINAL WIRING SHALL BE AS PER MANUFACTURER'S STANDARDS



TELEPHONE AND INTERNET RISER DIAGRAM

AUX
6 3

NOT SCALE



LOCATION MAP

AUX
6 4

NOT TO SCALE

NOTES:

1. SYMBOL

- SINGLE TELEPHONE WALL OUTLET, RJ11
- SINGLE TELEPHONE FLOOR MOUNTED OUTLET
- SINGLE UNIVERSAL DATA WALL OUTLET, RJ45
- DUPLEX UNIVERSAL DATA WALL OUTLET, RJ45
- INTERMEDIATE DISTRIBUTION FRAME
- MAIN DISTRIBUTION FRAME
- TELEPHONE AND CABLE TV SERVICE BOX, FLUSHED NEMA-4X, 150X150X100 MM, MOUNTED 1500 MM AT WALL NEAR SERVICE PEDESTAL OR IF POSSIBLE AT THE PEDESTAL.

2. PROVIDE DEDICATED CABLE FOR EACH OUTLET.
CAT 5/6 UTP CABLE FOR TELEPHONE AND CAT 6/7 UTP CABLE FOR DATA.
3. BOND ALL TFC, IDF, CABINET, PULLBOX AND CABLE TRAY WITH 14 SQ MM GROUND WIRE AND BOND IBTB.
4. TELEPHONE AND DATA SYSTEM WIRING AND CONDUIT SCHEDULE.

CONDUIT SIZE		NUMBER OF TEL/DATA CAT5e CABLE				
MMØ (INCHØ)		CAT 5 OR 6e 4 PAIR	25 - PAIR	50 - PAIR	100 - PAIR	
METAL	ØPVC					
20	25 (3/4)	4	1	-	-	
25	32 (1)	6	1	-	-	
32	40 (1-1/4)	12	3	1	-	
40	50 (1-1/2)	16	4	1	1	
50	63 (2)	27	7	2	1	
60	75 (2-1/2)	39	10	4	1	
80	90 (3)	60	15	6	3	
90	100 (3-1/2)	81	20	8	4	
100	110 (4)	104	26	11	6	

NOTE:
CABLE SHALL HAVE 1000MM LOCK SLACK INSIDE THE CABINET OR PULLBOX.
USE ONLY LONG ELBOW FOR ALL 90° CONDUIT BEND.

LEGEND

- SINGLE TELEPHONE WALL OUTLET, RJ11
- SINGLE TELEPHONE FLOOR MOUNTED OUTLET
- SINGLE UNIVERSAL DATA WALL OUTLET, RJ45
- DUPLEX UNIVERSAL DATA WALL OUTLET, RJ45
- INTERMEDIATE DISTRIBUTION FRAME
- MAIN DISTRIBUTION FRAME
- WALL CABLE TV OUTLET, PROVIDE 1- RG6/U COAXIAL CABLE
- CABLE TV BOX
- TELEPHONE AND CABLE TV BOX
- PROVISION FOR HDMI/VGA CABLING FOR OVERHEAD PROJECTOR, VERIFY EXACT LOCATION WITH ARCHITECT.
- HDMI & GA WALL OUTLET IN SINGLE PLATE INTERCONNECT WITH THE OVERHEAD PROJECTOR HDMI/VGA WIRING PROVISION OR T.V APPLIANCES HDMI/ VGA CABLE VIA 63MMØ PVC REFER TO LAYOUT.
- SMOKE DETECTOR - CEILING MOUNTED
- SMOKE DETECTOR - WALL MOUNTED
- HEAT DETECTOR, CEILING MOUNTED
- FIRE ALARM STROBE AND HORN, UL LISTED BRAND
- FIRE ALARM MANUAL PULL STATION, UL LISTED BRAND
- END OF LINE RESISTOR

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PROFESSIONAL ELECTRONICS ENGINEER
PRC NO. PTR NO.
DATE PLACE
TIN NO.

PROJECT
LOCATION
OWNER

CONSTRUCTION OF
INNOVATION AND COLLABORATION HUB PHASE II,
ALUBIJOD (MAIN) CAMPUS

USTP AGILA S&T PARK, ALUBIJOD, MISAMIS ORIENTAL

UNIVERSITY OF SCIENCE & TECHNOLOGY OF SOUTHERN PHILIPPINES

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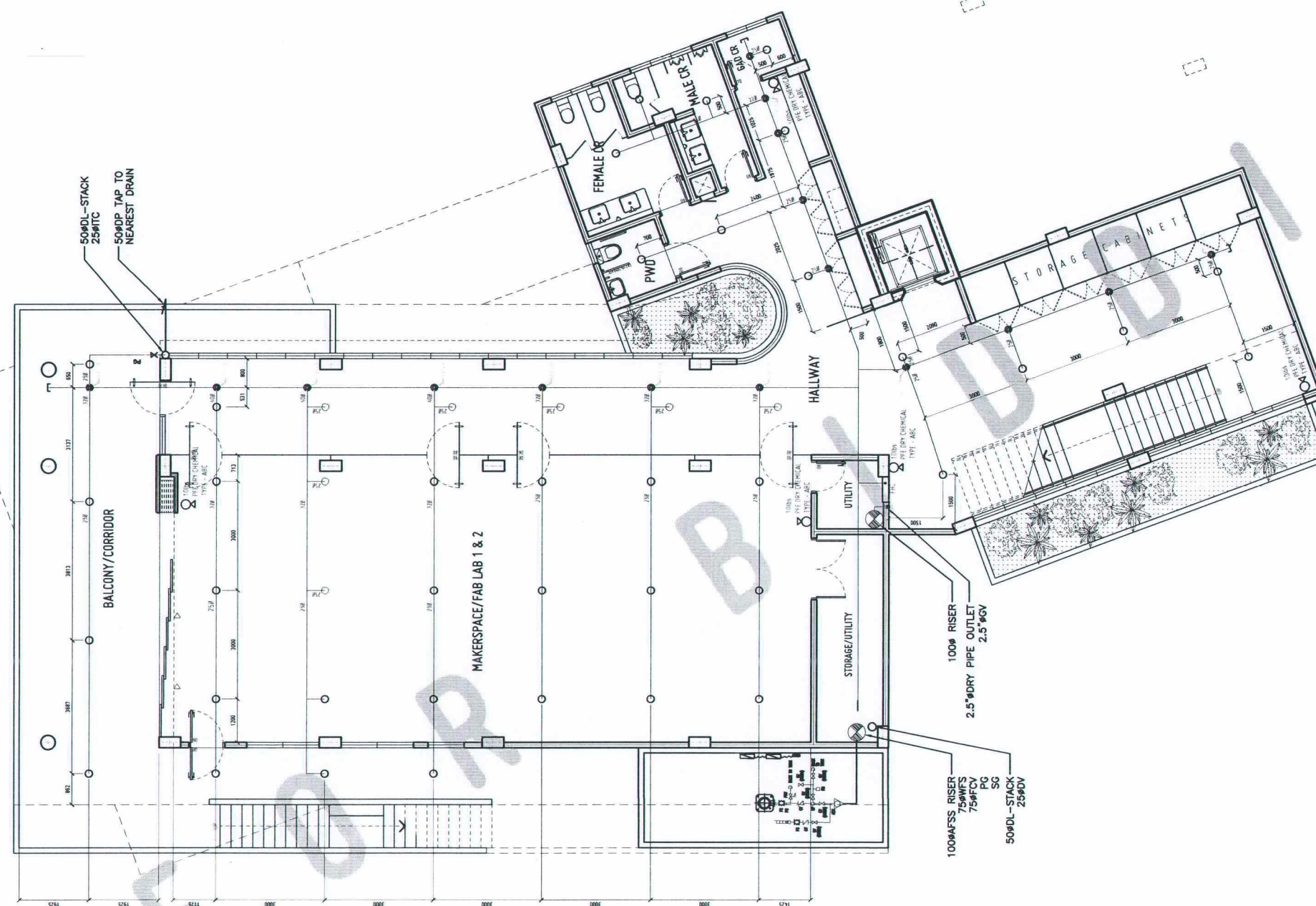
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AUX6



FIRE PROTECTION LAYOUT - LOWER GROUND LEVEL

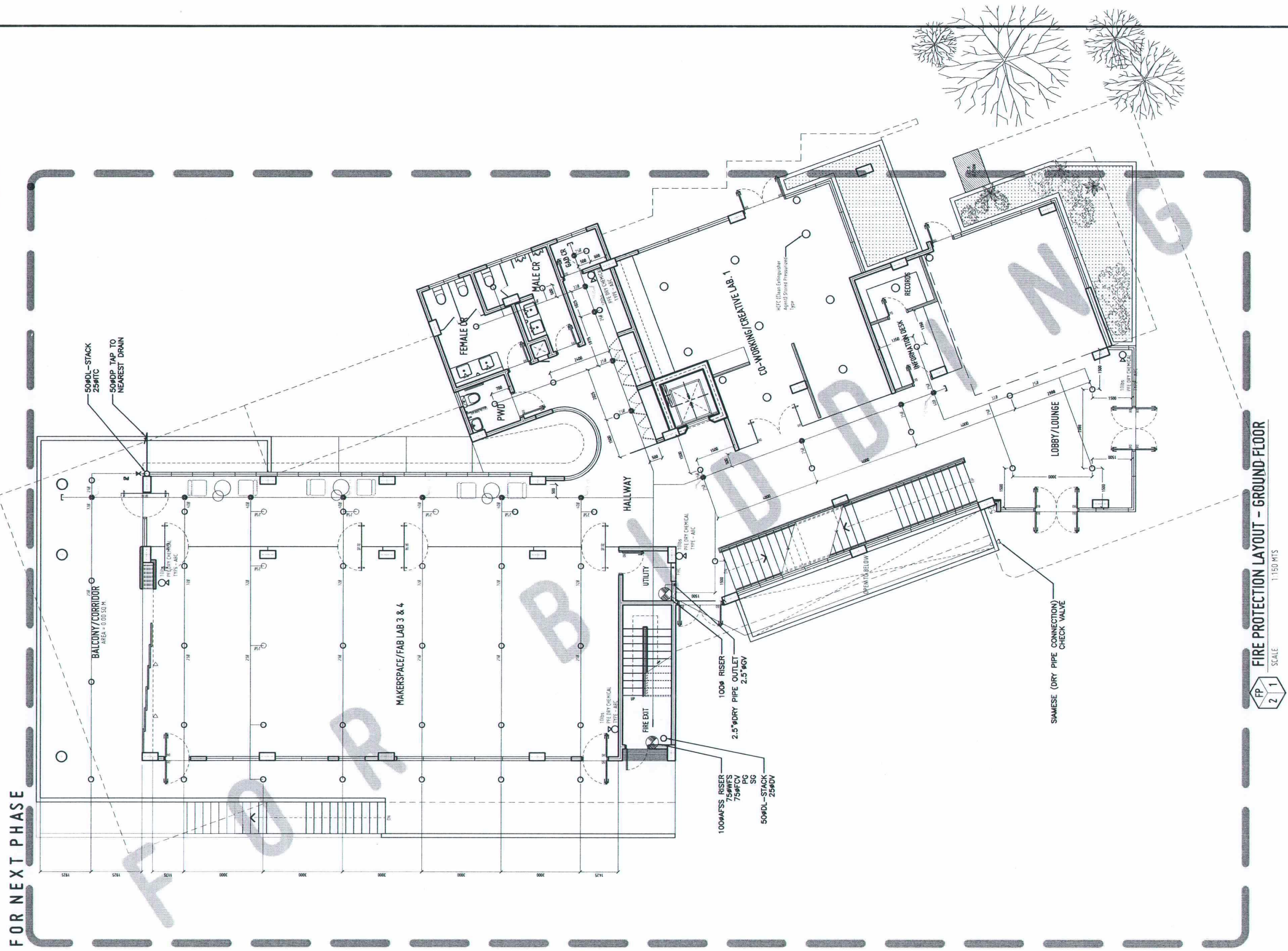


NOTE:
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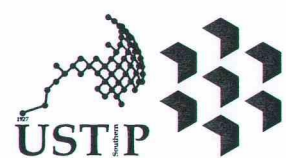
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FIRE PROTECTION LAYOUT - GROUND FLOOR
SCALE 1:150 MTS



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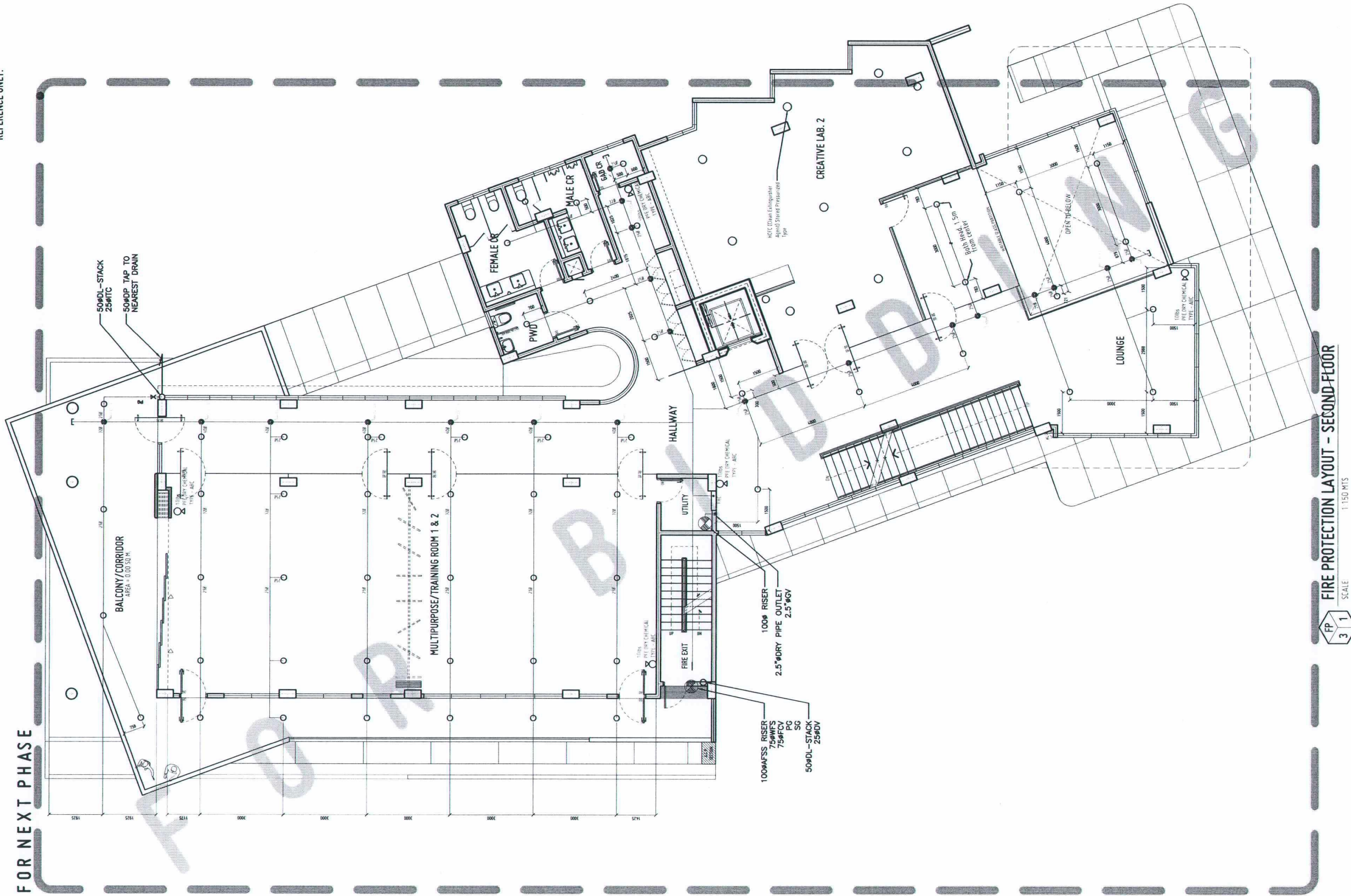
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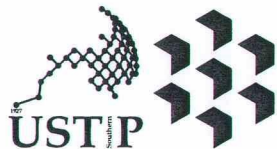


FIRE PROTECTION LAYOUT - SECOND FLOOR

1:150 MTS

SCALE

FP 3 1



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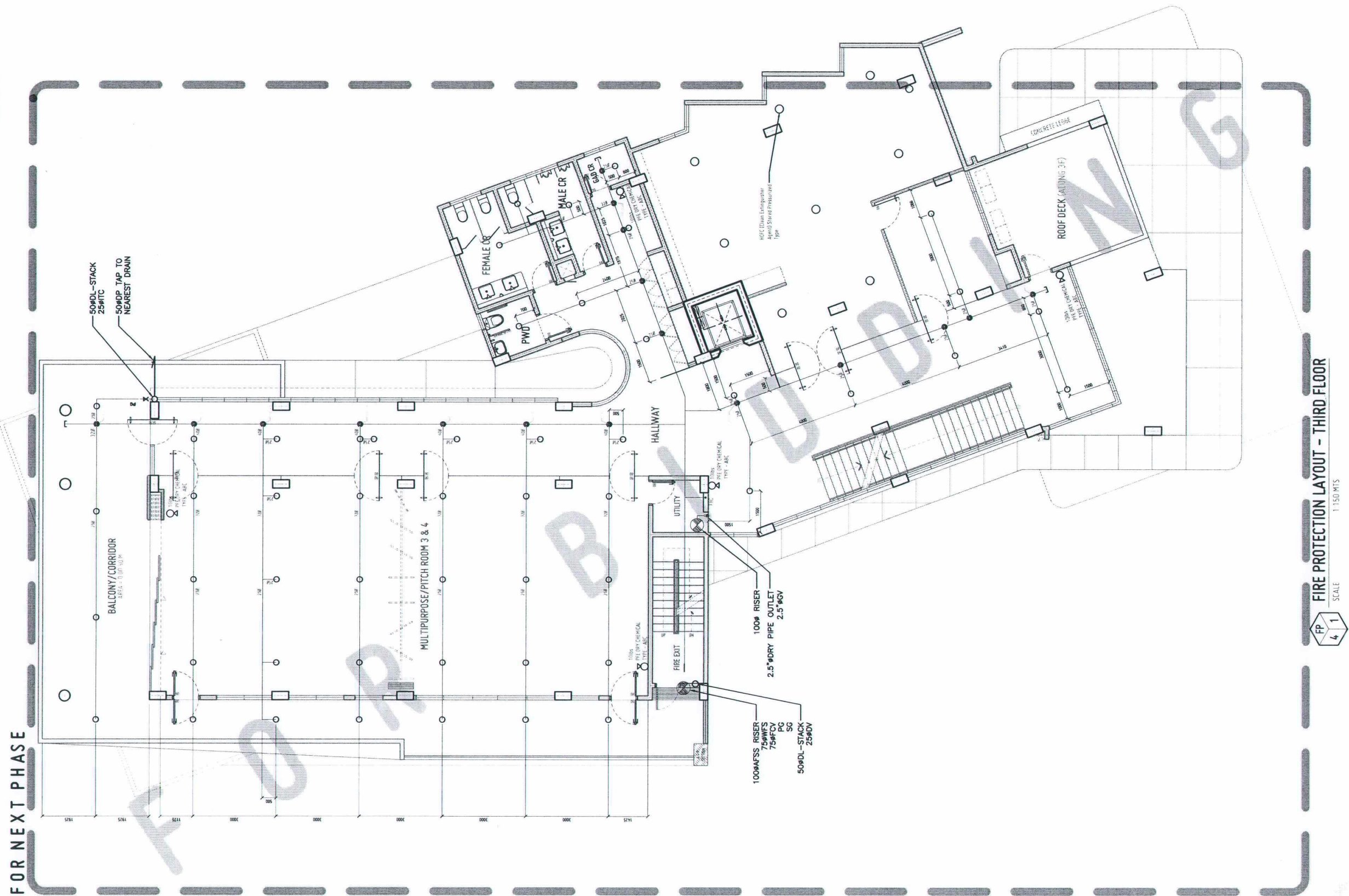
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FIRE PROTECTION LAYOUT - THIRD FLOOR

1:150 MTS



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FP4

GENERAL NOTES :

1. MOTORS, GENERATORS AND OTHER ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH NON-COMBUSTIBLE SPLASH PROOF SHIELDS OR HOODS.
2. SPRINKLER HEADS SPACED LESS THAN 1.80 M. (6 FT.) SHALL BE PROVIDED WITH BAFFLES OR DEFLECTORS.
3. FLOOR DRAINS FOR OIL SPILLS SHALL BE PROVIDED IN FLOOR SLAB FOR TRANSFORMER VAULT, BY PLUMBING CONTRACTOR.
4. ALL PORTABLE FIRE EXTINGUISHER (PFE) INSIDE FIRE HOSE CABINETS SHALL BE "ABC" TYPE DRY CHEMICAL.
5. ALL ELECTRICAL, MECHANICAL, AHU ROOMS TO BE PROVIDED WITH 10 LBS. FE-36 TYPE PORTABLE FIRE EXTINGUISHER.
6. TRANSFORMER VAULT SHALL BE PROVIDED WITH 1-50 LBS. WHEELED TYPE FE-36 PORTABLE FIRE EXTINGUISHER.
7. ALL WIRE FOR LOAD SIDE SHALL BE BY FIRE PROTECTION CONTRACTOR SCOPE OF WORK.
8. PUMP CONCRETE PUMP SHALL BE BY OTHERS SCOPE.
9. PROVIDE FIRE SEALANT TO ALL PIPE PENETRATIONS THRU ROOMS AND FLOOR LEVELS.
10. ALL SPRINKLERS AT AREAS WITH CEILING SHALL BE PENDENT TYPE. ALL SPRINKLERS AT AREAS WITHOUT CEILING SHALL BE UPRIGHT TYPE.
11. MINIMUM SPACING BETWEEN SPRINKLER HEAD AND LIGHTING FIXTURE SHALL BE 300mm.
12. ALL PIPES PASSING THRU BEAMS/GIRDERS SHALL BE PROVIDED WITH PIPE SLEEVE ONE (1) SIZE HIGHER.
13. FIRE PUMP SHALL BE PROVIDED WITH AUTOMATIC TRANSFER SWITCH (ATS).
12. FIRE AND JOCKEY PUMP SHALL HAVE SEPARATE SENSING LINE. MATERIAL SHALL BE STAINLESS STEEL.

MATERIAL SPECIFICATIONS :

- FIRE LINES** FIRE LINES SHALL BE BLACK IRON (B.I.) PIPES SCHEDULE 80/40 "STANDARD" CONFORMING TO ASTM A-120-1980 "SUPERIOR" OR "SUPREME" BRAND OR APPROVED EQUIVALENT.
- GATE VALVES** SHALL BE OUTSIDE SCREW AND YOKE (OS&Y) TO ASTM B-62 CHECK AND GLOBE VALVES TO ASTM B-62.
- SPRINKLER HEADS** ALL SPRINKLER HEADS, PENDENT (CONCEALED, UPRIGHT & SIDEWALL) SHALL BE RATED 57°C (135°F) TO 74°C (165°F) EXCEPT ON AHU, PUMP, MECHANICAL ROOM & KITCHEN SHALL BE 79°C (175°F) TO 100°C (212°F).

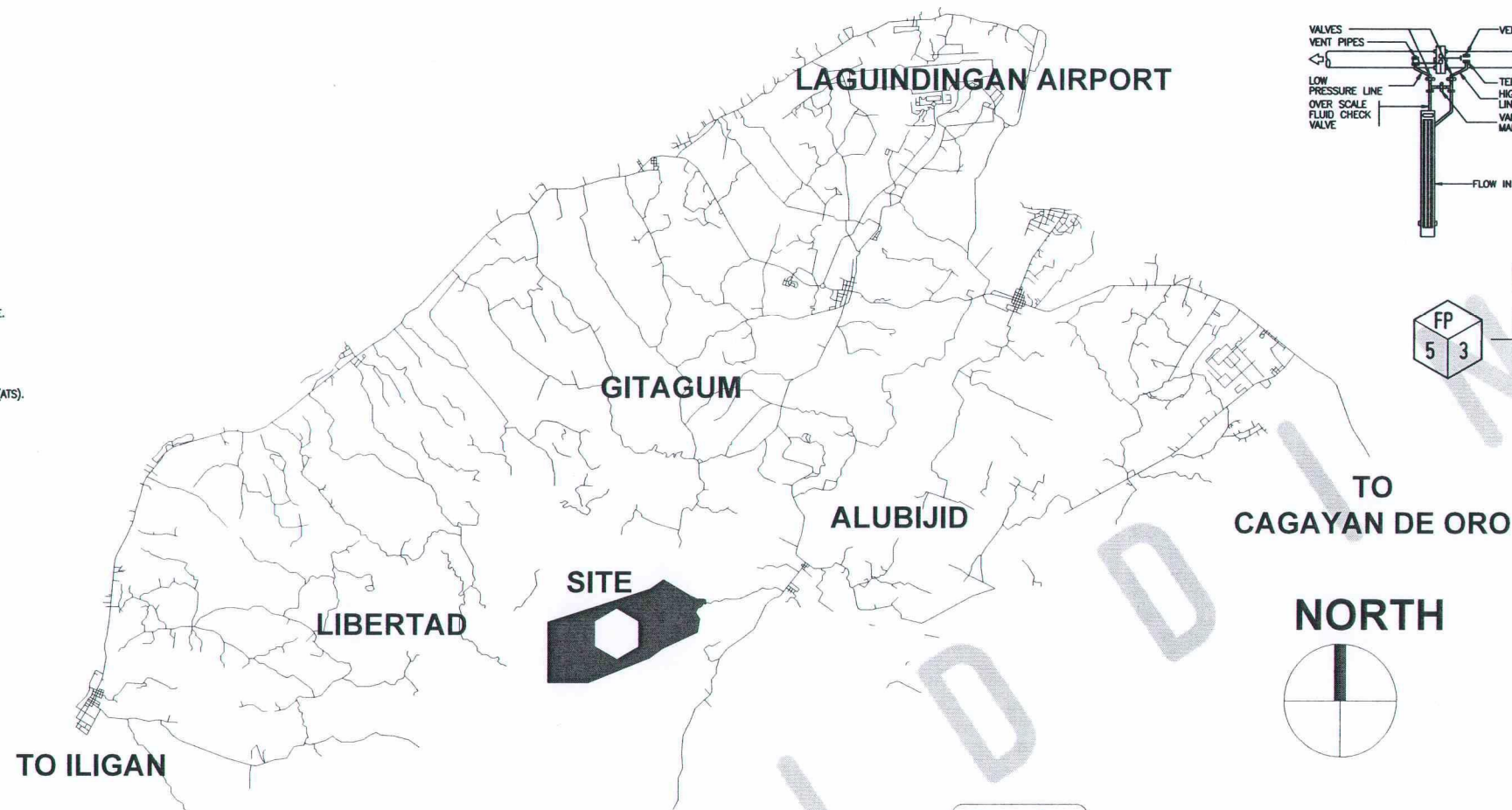
LEGEND :

- RECESSED PENDENT TYPE SPRINKLER HEAD
- UPRIGHT SPRINKLER HEAD
- SIDEWALL SPRINKLER HEAD
- SPRINKLER RISER
- DRY STANDPIPE RISER
- DL STACK
- CROSSMAIN OR FEEDMAIN LINE (DSP/AFSS) FIRE DEPARTMENT CONNECTION SUPPLY LINE
- FLUSHING CONNECTION BRANCH LINE
- RISER NIPPLE
- 2-WAY LONGITUDINAL SWAY BRACE
- 2-WAY LATERAL SWAY BRACE
- 4-WAY RISER SWAY BRACE
- FIRE HOSE VALVE
- HANGER
- FIRE HOSE CABINET
- PIPE SLEEVES
- (10 LBS.) PORTABLE FIRE EXTINGUISHER
- (50 LBS.) PORTABLE FIRE EXTINGUISHER
- WHEELED TYPE
- DRAIN LINE
- INSPECTOR TEST CONNECTION
- DRAIN VALVE
- 2-WAY DSP & AFSS FIRE DEPT. CONNECTION INLET
- 2-WAY SIAMESE TWIN ROOF OUTLET/ ROOF MANIFOLD
- ALARM CHECK VALVE ASSEMBLY
- PRESSURE GAUGE

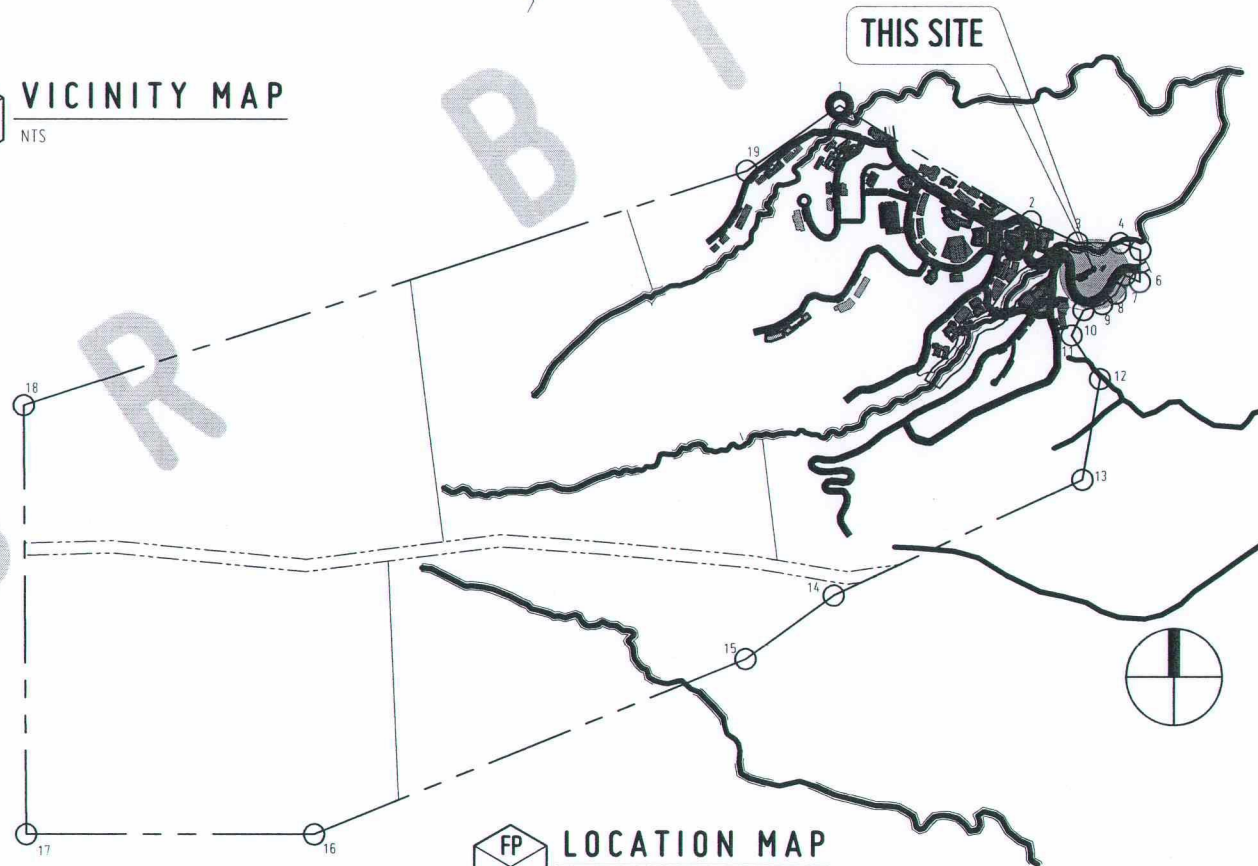
ABBREVIATION:

- DSP DRY STAND PIPE
AFSS AUTOMATIC FIRE SPRINKLER SYSTEM
(OS & Y)GV GATE VALVE(OUTSIDE SCREW & YOKE)
GV GATE VALVE
DV DRAIN VALVE
CV CHECK VALVE
FCV FLOOR CONTROL VALVE
FH FIRE HYDRANT
FL FIRE LINE
ITC INSPECTOR TEST CONNECTION
PFE PORTABLE FIRE EXTINGUISHER
FHV FIRE HOSE VALVE
ACV ALARM CHECK VALVE
DL DRAIN LINE
FHC FIRE HOSE CABINET
WFS WATER FLOW SWITCH
PG PRESSURE GAUGE

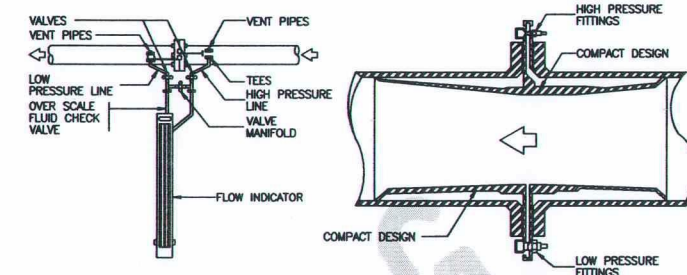
LAGUINDINGAN AIRPORT



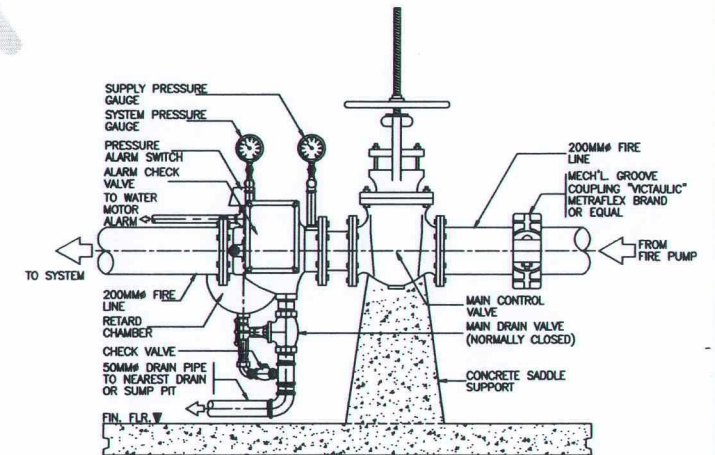
FP 5 1
NTS
VICINITY MAP



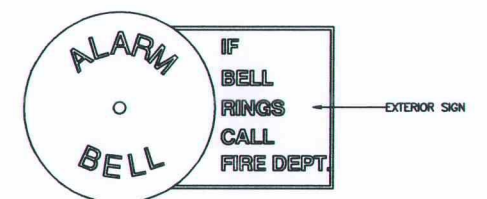
FP 5 2
NTS
LOCATION MAP



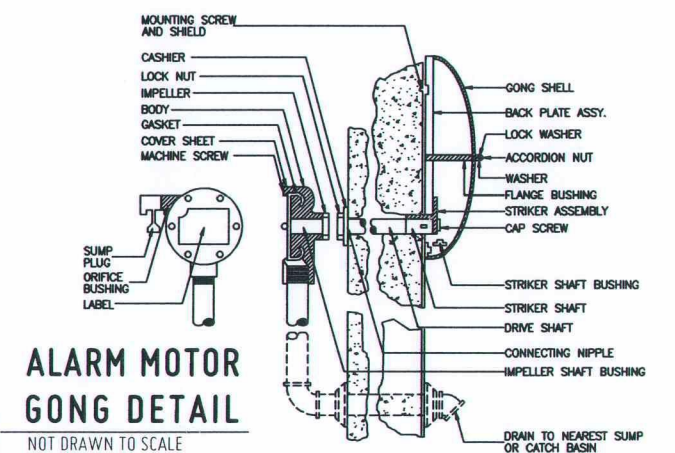
FP 5 3
NOT DRAWN TO SCALE
FLOW MEASURING DEVICE DETAIL



FP 5 4
NOT DRAWN TO SCALE
ALARM CHECK VALVE ASSEMBLY (WET TYPE)



ELEVATION



FP 5 5
NOT DRAWN TO SCALE
ALARM MOTOR GONG DETAIL

SECTIONAL



REPUBLIC OF THE PHILIPPINES
UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
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PROFESSIONAL MECHANICAL ENGINEER
PRC NO. PTR NO.
DATE PLACE
TIN NO.

PROJECT
CONSTRUCTION OF INNOVATION AND COLLABORATION HUB PHASE II, ALUBIJID (MAIN) CAMPUS
LOCATION
USTP AGILA S&T PARK, ALUBIJID, MISAMIS ORIENTAL
OWNER
UNIVERSITY OF SCIENCE & TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
ENGR. GRACE C. BABA
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE

RECOMMENDING APPROVAL:
DR. LORY LIZA D. BULAY-OG
DIRECTOR, USTP ALUBIJID

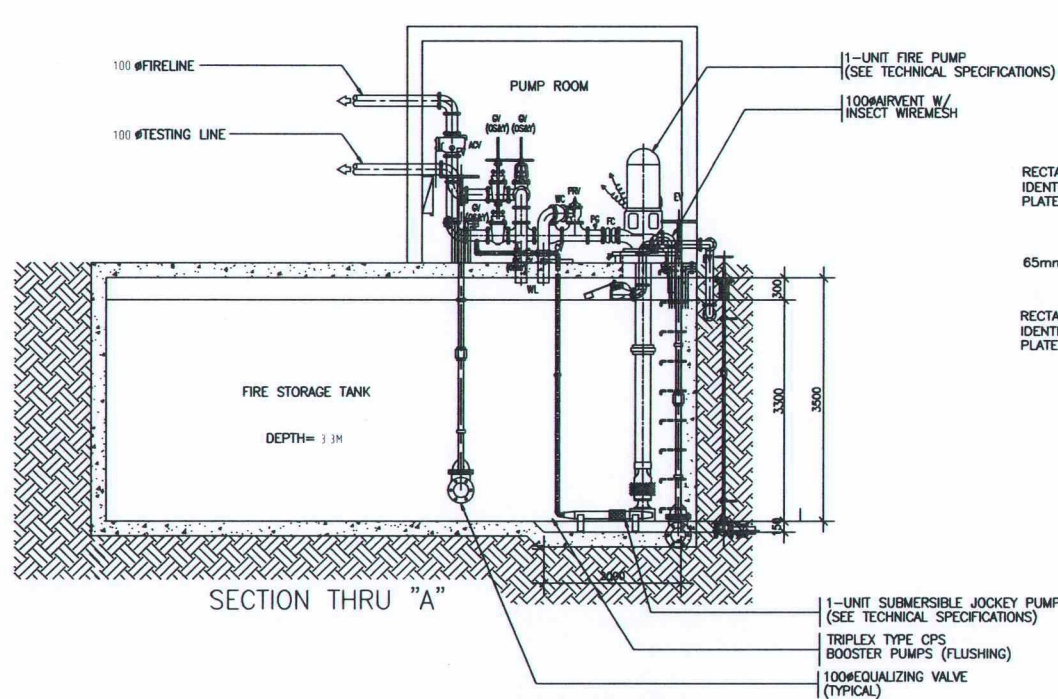
RECOMMENDING APPROVAL:
ATTY. JONATHAN S. OCHE
VP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:
DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

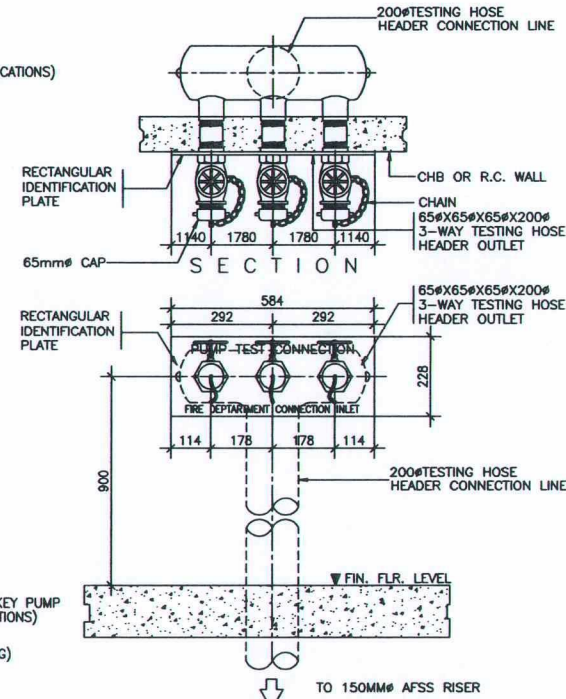
SHEET CONTENTS:

DRAWN BY:
DATE DRAWN:
FNT:

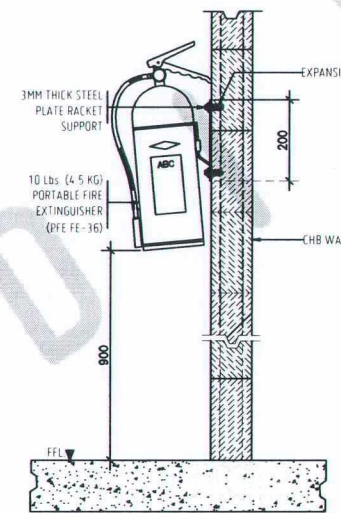
FP5



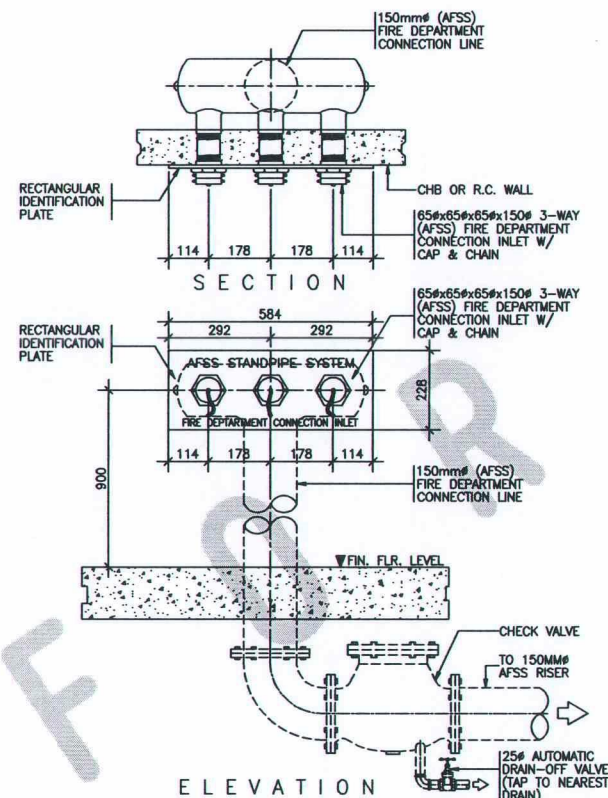
FP 6 1
FIRE STORAGE TANK DETAIL
SCALE: 1:50 MTS



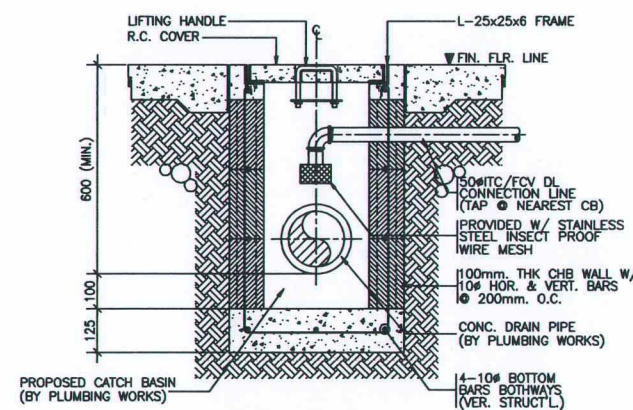
FP 6 2
PUMP TEST CONNECTION DETAIL
SCALE: 1:10 MTS



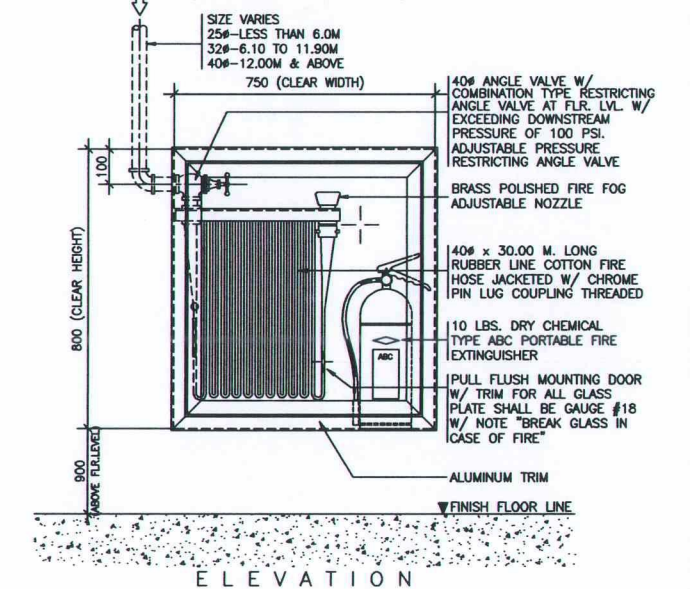
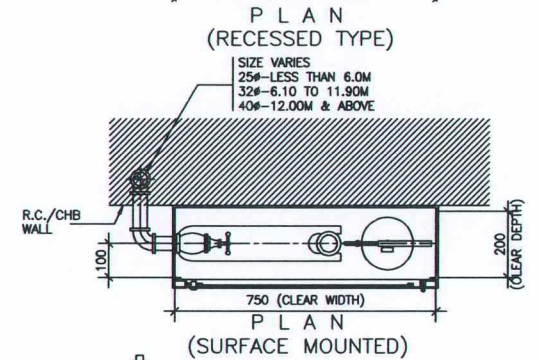
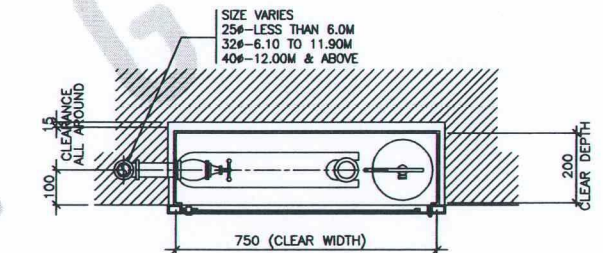
FP 6 5
10 lbs. (3.57kgs) PFE FE-36 PORTABLE FIRE EXTINGUISHER
NOT DRAWN TO SCALE



FP 6 3
AFSS FIRE DEPT. INLET DETAIL
SCALE: 1:10 MTS



FP 6 4
SECTION FTV/ITC DL CONNECTION TO CATCH BASIN
SCALE: 1:10 MTS



FP 6 6
FIRE HOSE CABINET DETAIL
NOT DRAWN TO SCALE

Approved by:

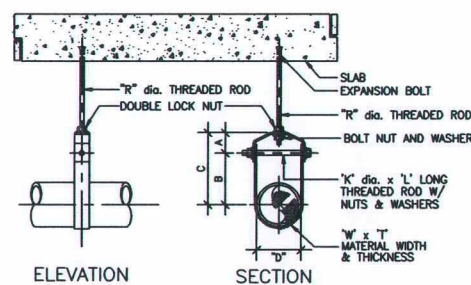


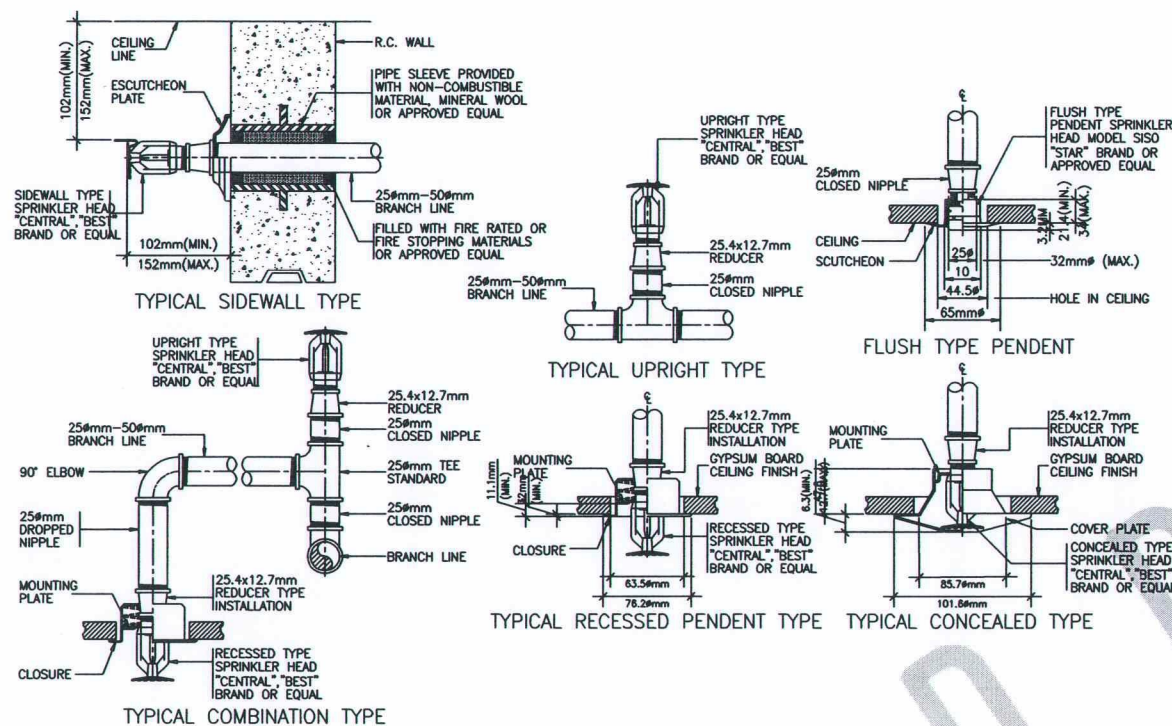
TABLE OF DIMENSIONS IN MM

PIPE SIZE "D" (MM)	ROD DIA. "R" (MM)	B	C	A MAX.	W x T	K x L
50	9.65	111.12	143	69.30	25 x 3	M10 x 85
75	12.7	105.0	165.1	30.23	40 x 6	M12 x 115
100	15.9	133.35	40	33.27	40 x 6	M12 x 130
150	19.1	176.12	267	50.00	40 x 6	M16 x 190

FP
7 1

PIPE HANGER DETAIL

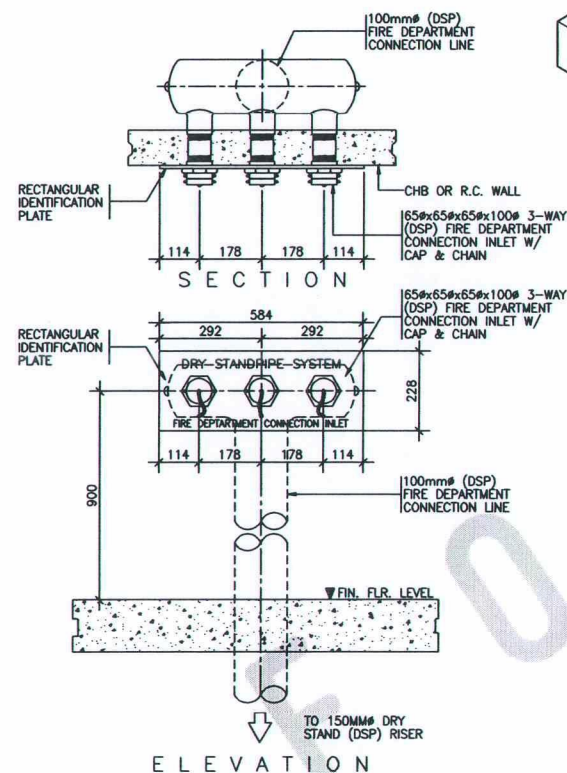
NOT DRAWN TO SCALE



FP
7 2

SPRINKLER HEADS DETAIL

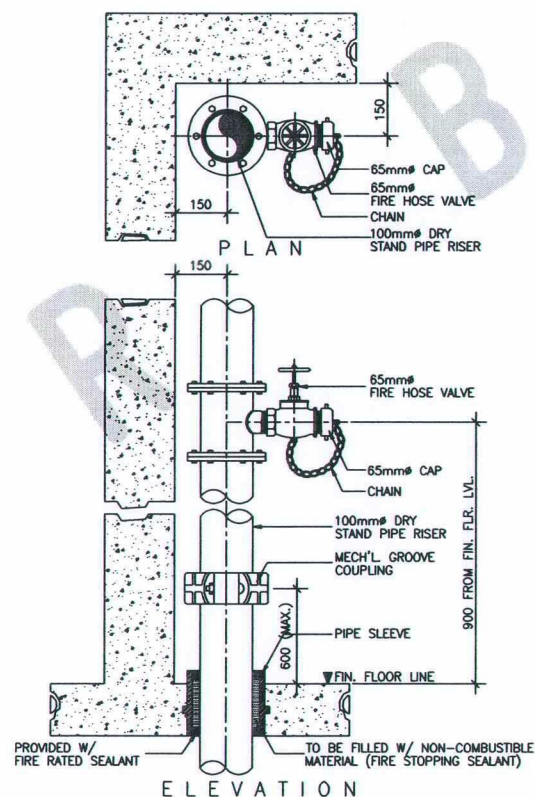
SCALE: 1:3 MTS



FP
7 3

DPSS FIRE DEPT. INLET DETAIL

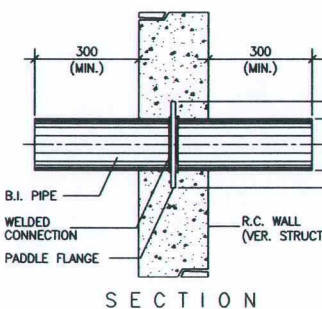
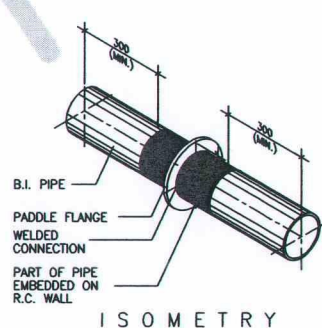
SCALE: 1:10 MTS



FP
7 4

FIRE HOSE VALVE DETAIL

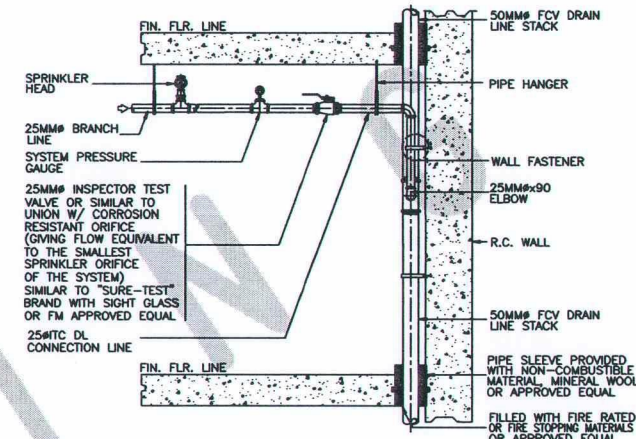
SCALE: 1:10 MTS



FP
7 5

PADLE FLANGE DETAIL

SCALE: 1:10 MTS



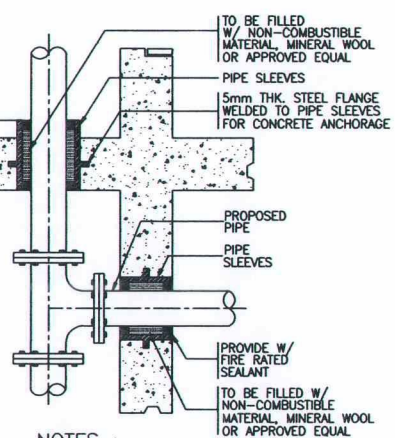
FP
7 6

INSPECTOR TEST CONNECTION DETAIL

NOT DRAWN TO SCALE

SCHEDULE OF PIPE SLEEVES

SIZE OF BRANCHLINES	SIZE OF PIPE SLEEVES
25MM#	50MM#
32MM#	50MM#
40MM#	65MM#
50MM#	75MM#
65MM#	100MM#
75MM#	100MM#
100MM#	150MM#
150MM#	225MM#
200MM#	300MM#



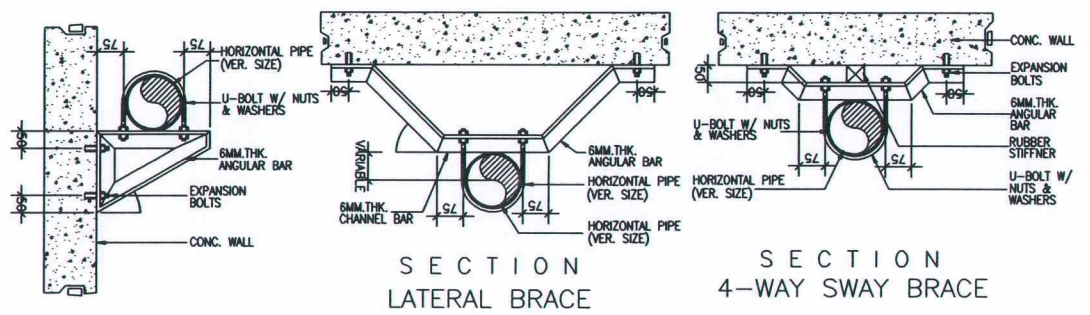
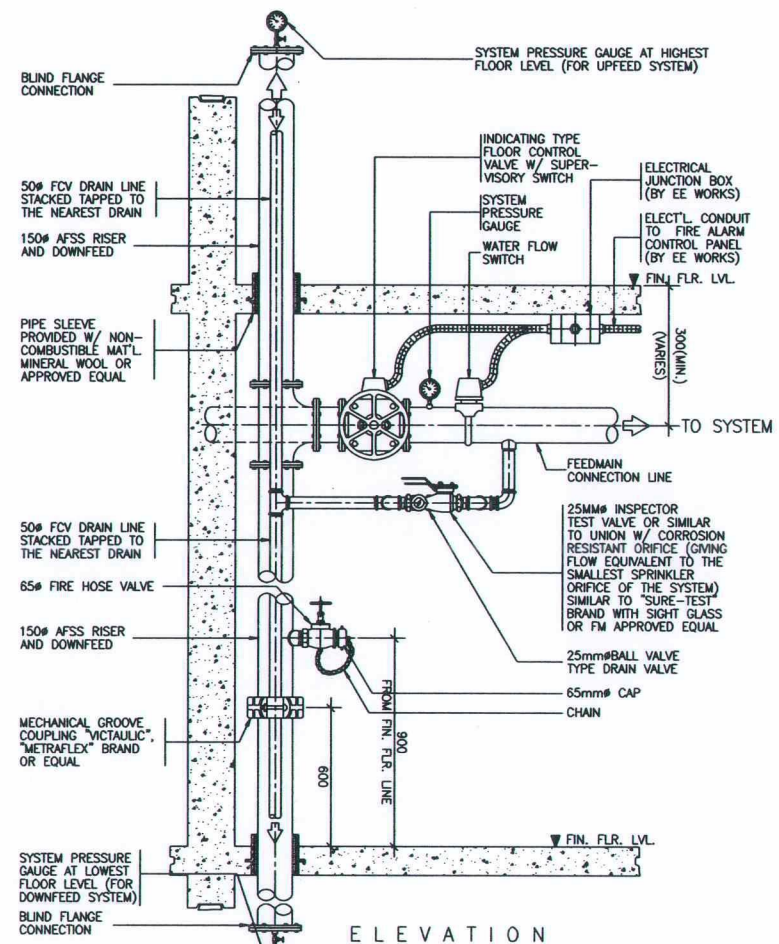
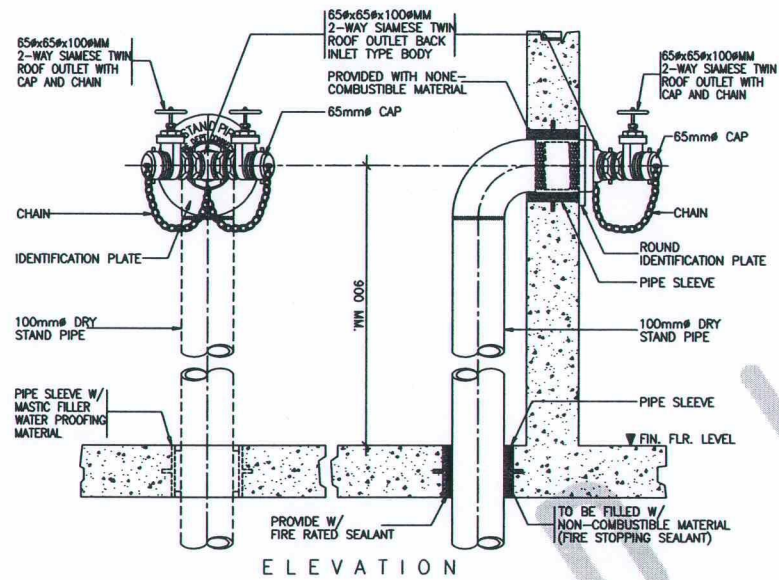
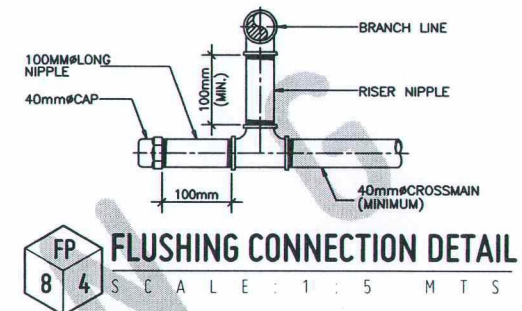
NOTES :

- SLEEVES SHALL BE PROVIDED AROUND ALL PIPING EXTENDING THROUGH WALLS, FLOORS, PLATFORMS AND FOUNDATIONS.
- THE CLEARANCE BETWEEN THE PIPE SLEEVES SHALL BE FILLED W/NON-COMBUSTIBLE FLEXIBLE MATERIAL SUCH AS MINERAL WOOL, FIBERGLASS OR EQUIVALENT.
 - MINIMUM CLEARANCE BETWEEN PIPE AND SLEEVES SHALL NOT BE LESS THAN 25MM FOR PIPE 25MM THROUGH 75MM & 40MM FOR PIPE SIZE 100MM AND LARGER FLOOR SLEEVES SHALL BE EXTENDED AT LEAST 75MM ABOVE THE TOP OF THE WEARING SURFACE.

FP
7 7

PIPE SLEEVE DETAIL

NOT DRAWN TO SCALE



ELEVATION
PIPE BRACKET

PIPE SIZE	U-BOLT DIA.	ANGLE BAR	EXPANSION BOLT
50	10	50 X 50	10
65	10	50 X 50	10
75	10	50 X 50	10
100	12	65 X 65	12

ELEVATION
LONGITUDINAL BRACE

SWAY BRACING DETAIL
SCALE: 1:10 MTS

